

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 2-8 and 25-27 are presently active in this case, Claims 2, 5, 6, and 8 having been amended and Claims 25-27 having been added by way of the present Amendment.

In the outstanding Official Action, Claims 2-8 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2 and 5 have been amended to clarify the high and low temperatures by indicating the relationship between the high and low temperatures, thus making the claims definite. Claims 6 and 8 have been amended to change "the air" to "air." Accordingly, the Applicants respectfully submit that the claims are definite under 35 U.S.C. 112, second paragraph, and therefore request the withdrawal of the indefiniteness rejections.

Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Knapczyk (U.S. Patent No. 4,590,101), Morita et al. (U.S. Patent No. 4,839,232), or Nakano et al. (U.S. Patent No. 6,423,651). Claim 1 has been canceled, thus these rejections have been rendered moot.

Claims 2-8 were rejected under 35 U.S.C. 102(e) as being anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakano et al. Claims 2-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Knapczyk or Morita et al. For the reasons discussed below, the Applicants request the withdrawal of the art rejections of claims 2-8.

Claim 2 of the present application recites a method to heat-treat a substrate coated with a coating solution which oxidizes at a high temperature. The method comprises the steps of (a) lowering an oxygen concentration of a treatment atmosphere when a temperature of the substrate is lower than the temperature at which the coating solution oxidizes, (b) heat-treating the substrate in the treatment atmosphere of which the oxygen concentration has been lowered so as not cause oxidation to the coating solution, and (c) returning the treatment atmosphere to that with the original oxygen concentration after completing the heat treatment and cooling the substrate to a temperature lower than the temperature at which the coating solution oxidizes. The Applicants submit that the cited references do not disclose or suggest all of the limitations recited in Claim 2.

The Nakano et al. reference describes generally a method including drying a coated insulating film by heating and curing in an inert gas atmosphere. Then, the insulating film forming solution is polymerized and cured without being mixed with oxygen, such that, at the time of polymerization and curing of the insulating film forming solution, the insulating film forming solution is not oxidized. (See column 6, lines 24-39.) However, the Nakano et al. reference does not disclose the specific steps recited in Claim 2 of the present application. For example, the Nakano et al. reference does not disclose or suggest lowering an oxygen concentration based upon whether the temperature of the substrate is lower than a temperature at which the coating solution oxidizes. The Nakano et al. reference also does not disclose or suggest returning the treatment atmosphere to that with the original oxygen concentration after completing the heat treatment and cooling the substrate to a temperature lower than the temperature at which the coating solution oxidizes. Such features are not

inherent in the teachings of the Nakano et al. reference, and can only be gleaned by improperly utilizing hindsight considerations based on the teachings of the present invention.

Regarding the rejections based upon the Knapczyk and Morita et al. references, the Official Action acknowledges that these references do not teach that the coating solution oxidizes at a high temperature. The Applicants note that, while this limitation is introduced in the preamble of amended Claim 2, this limitation is incorporated into the body of the claim as well. The limitation is not a mere recitation of intended use, but rather defines the boundaries of several of the steps of the claim. Accordingly, the limitation regarding the coating solution that oxidizes at a high temperature is a limitation of the claim. Therefore, the Knapczyk and Morita et al. references do not teach or suggest all of the limitations recited in Claim 2.

Accordingly, the Applicants respectfully request the withdrawal of the art rejections of Claim 2.

Claims 3-8 are considered allowable for the reasons advanced for Claim 2 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the applied references when those features are considered within the context of Claim 2.

Newly added Claims 25-27 are considered allowable as they recite features of the invention that are neither disclosed nor suggested by the references of record. See page 9, lines 29 to 33, and page 10, lines 8 to 17, of the specification for support for the new claims.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Finally, the attention of the Patent Office is directed to the change of address of Applicants' representative, effective January 6, 2003:

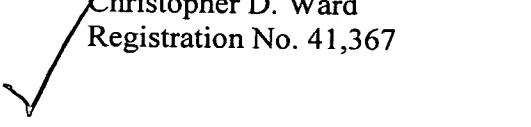
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Please direct all future communications to this new address.

Respectfully Submitted,

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IN THE CLAIMS

1. (Cancel)
2. (Once Amended) A method to heat-treat a substrate coated with a coating solution which oxidizes at a high [temperatures] temperature, said method comprising the steps of:
 - (a) lowering an oxygen concentration of a treatment atmosphere when [the] a temperature of the substrate is [low] lower than the temperature at which the coating solution oxidizes;
 - (b) heat-treating the substrate in the treatment atmosphere of which the oxygen concentration [is] has been lowered so as not cause oxidation to the coating solution; and
 - (c) returning the treatment atmosphere to that with the original oxygen concentration after completing said heat treatment and cooling the substrate to a temperature lower than the temperature at which the coating solution oxidizes.
5. (Once Amended) The method as set forth in claim 2, wherein said step (a) replaces the treatment atmosphere with inert gas when the temperature is [low] lower than the temperature at which the coating solution oxidizes.
6. (Once Amended) The method as set forth in claim 2, wherein the step (c) exposes the substrate to [the] air after the passage of a predetermined time from the completion of said heat treatment.
8. (Once Amended) The method as set forth in claim 2, wherein said step (c) exposes the substrate to [the] air when the temperature of the substrate becomes lower than a predetermined value.

25. (New)

26. (New)

27. (New)